

#5

## SEQUENCE LISTING

### (1) GENERAL INFORMATION:

- (i) APPLICANT: HAWLEY-NELSON, PAMELA  
LAN, JIANQING  
SHIH, POJEN  
JESSE, JOEL A.  
SCHIFFERLI, KEVIN P.  
GEBEYEHU, GULILAT

(ii) TITLE OF INVENTION: PEPTIDE-ENHANCED TRANSFECTIONS

(iii) NUMBER OF SEQUENCES: 120

(iv) CORRESPONDENCE ADDRESS:

- (A) ADDRESSEE: GREENLEE, WINNER & SULLIVAN  
(B) STREET: 5370 MANHATTAN CIRCLE, SUITE 201  
(C) CITY: BOULDER  
(D) STATE: CO  
(E) COUNTRY: US  
(F) ZIP: 80303

(v) COMPUTER READABLE FORM:

- (A) MEDIUM TYPE: Floppy disk  
(B) COMPUTER: IBM PC compatible  
(C) OPERATING SYSTEM: PC-DOS/MS-DOS  
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(vi) CURRENT APPLICATION DATA:

- (A) APPLICATION NUMBER: Not assigned  
(B) FILING DATE: 23-JUL-2001  
(C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA

- (A) APPLICATION NUMBER: US 09/039,780  
(B) FILING DATE: 16-MAR-1998  
(C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:

- (A) NAME: SULLIVAN, SALLY A.  
(B) REGISTRATION NUMBER: 32,064  
(C) REFERENCE/DOCKET NUMBER: 32-95D

(ix) TELECOMMUNICATION INFORMATION:

- (A) TELEPHONE: (303)499-8080  
(B) TELEFAX: (303)499-8089

0901569.011602

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 10 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

His Ala Ile Arg Gly Asp Thr Phe Ala Thr  
1            5            10

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 7 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Pro Lys Lys Lys Arg Lys Val  
1            5

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(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 8 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Pro Lys Lys Lys Lys Arg Lys Val  
1 5

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "ANY OR ALL OF THE AMINO ACIDS 2-20 CAN BE PRESENT OR ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Lys Lys Lys Lys  
20

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "ANY OR ALL OF THE AMINO ACIDS 2-20 CAN BE PRESENT OR ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg  
1            5            10            15

Arg Arg Arg Arg  
20

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 3..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "ANY Lys-Arg PAIR FROM AMINO ACID 3-40 CAN BE PRESENT OR ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg  
1            5            10            15

Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg Lys Arg  
20            25            30

Lys Arg Lys Arg Lys Arg Lys Arg  
35            40

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(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "ANY OR ALL OF THE AMINO ACIDS 2-20 CAN BE PRESENT OR ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly  
1            5            10            15

Gly Gly Gly Gly  
20

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 7 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Gly Arg Gly Asp Ser Pro Cys  
1 5

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 23 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "ANY OR ALL OF THE AMINO ACIDS 1-20 CAN BE PRESENT OR  
ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Lys Lys Lys Lys Arg Gly Asp  
20

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 19 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Arg Gly Asp

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(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 7 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

Lys Phe Thr Ile Val Phe Cys  
1 5

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

Cys Gly Trp Gly Pro Lys Lys Lys Arg Lys Val Gly  
1            5            10

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 26 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

Gly Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Gly Tyr  
1            5            10            15

Gly Pro Lys Lys Lys Arg Lys Val Gly Gly  
20            25

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO



(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

Arg Gly Asp Ser Pro Cys  
1 5

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
  - (B) TYPE: amino acid
  - (C) STRANDEDNESS: not relevant
  - (D) TOPOLOGY: linear
- 

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

Arg Glu Asp Val  
1

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

Arg Gly Asp Val  
1

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His Pro Asn Leu His Gly  
1            5            10            15

Pro Glu Ile Leu Asp Val Pro Ser Thr  
20            25

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Arg Gly Asp Asn  
1

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

Arg Gly Asp Met  
1

(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Arg Gly Asp Thr  
1

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(2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
  - (B) LOCATION: 4
  - (D) OTHER INFORMATION: /product= "OTHER"
- /note= "Xaa AT POSITION 4 CAN BE ANY AMINO ACID"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Arg Gly Asp Xaa

1

(2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

Arg Gly Asp Ser

1

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(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

Arg Gly Asp Ala

1

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "C AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 3
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 3 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 14..33

(D) OTHER INFORMATION: /product= "OTHER"

/note= "ANY OR ALL OF THE GLY AT POSITIONS 14 TO 33 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

Cys-Gly-Xaa-Gly-Pro-Lys-Lys-Lys-Arg-Lys-Val-Gly-Gly-Gly-Gly-Gly

1 5 10 15

Gly-Gly-Gly-Gly-Gly-Gly-Gly-Gly-Gly-Gly-Gly-Gly-Gly-Gly-Gly

20 25 30

Gly

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 48 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS AND ANY OR ALL OF THESE AMINO ACIDS CAN BE ABSENT "

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 28

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 28 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 29..48

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 29-48 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1 5 10 15

Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys Val Xaa Xaa Xaa Xaa Xaa

20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

35 40 45

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 90 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITON 21 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 22 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 23..42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 23-42 CAN BE ANY AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 50 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 51..70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 51 TO 79 CAN BE ANY AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 71..90

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 71-90 CAN BE ANY CATIONIC AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1 5 10 15

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys

35 40 45

Val Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

50 55 60



Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65                      70                      75                      80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85                      90

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 70 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not-relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 22 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 23..42
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 23 TO 42 CAN BE ANY AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

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(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50 TO 69 CAN BE ANY AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 70 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1            5            10            15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20            25            30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys  
35            40            45

Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50            55            60

Xaa Xaa Xaa Xaa Xaa Cys  
65            70

(2) INFORMATION FOR SEQ ID NO:28:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 90 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

## (ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 2..21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR ANY OF THESE AMINO ACIDS CAN BE ABSENT"

## (ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 22 CAN BE TYR OR TRP OR CAN BE ABSENT"

## (ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 23..42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 23-42 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

## (ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 50 CAN BE ABSENT"

## (ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 51..70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 51 TO 70 CAN BE ANY AMINO ACIDS AND CAN BE ABSENT"

## (ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 71..90

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 71-90 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

20

25

30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys  
35 40 45

Val Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 90 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21 TO 40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 42
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 42 CAN BE TYR OT TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 43..62

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 43 TO 62 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 70..89

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 70 TO 89 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 90

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 90 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys  
50 55 60

Lys Lys Arg Lys Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys  
85 90

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 90 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21..40

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21 TO 40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 41

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 42 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 43..62

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 43 TO 62 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 70 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 71..90

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 71 TO 90 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys  
50 55 60

Lys Lys Arg Lys Val Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

Arg Gly Asp Ser Pro  
1 5

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 69 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21..40

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 41

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 42 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 48

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 48 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 49

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 49 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

091569-01600



(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Gly Arg Gly Asp Ser Pro Gly  
35 40 45

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa  
65

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 69 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 22 CAN BE ABSENT"

0091569-011602

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 28

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 29

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 29 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 30..49

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50 -69 CAN BE ANY CATIONIC AMINO ACIDS"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1            5            10            15

Xaa Xaa Xaa Xaa Cys Gly Arg Gly Asp Ser Pro Gly Cys Xaa Xaa Xaa  
20            25            30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35            40            45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50            55            60

Xaa Xaa Xaa Xaa Xaa  
65

091569 01600

(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 69 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21..40

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 41

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 42 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 48

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 48 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 49..68

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 49-68 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 69 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Gly Arg Gly Asp Ser Pro Gly  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Cys  
65

(2) INFORMATION FOR SEQ ID NO:35:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 69 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 2..21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 22 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 28

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 29

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 29 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 30..49

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1 5 10 15

Xaa Xaa Xaa Xaa Xaa Gly Arg Gly Asp Ser Pro Gly Cys Xaa Xaa Xaa

20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

50 55 60

Xaa Xaa Xaa Xaa Xaa  
65

(2) INFORMATION FOR SEQ ID NO:36:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

Arg Gly Asp Met Phe  
1 5

(2) INFORMATION FOR SEQ ID NO:37:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 22  
 (D) OTHER INFORMATION: /product= "OTHER"  
/note= "GLY AT POSITION 22 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 28  
 (D) OTHER INFORMATION: /product= "OTHER"  
/note= "GLY AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 29  
 (D) OTHER INFORMATION: /product= "OTHER"  
/note= "CYS AT POSITION 29 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 30..49  
 (D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1            5            10            15

Xaa Xaa Xaa Xaa Cys Gly Arg Gly Asp Met Phe Gly Cys Xaa Xaa Xaa  
20            25            30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35            40            45

Xaa

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 47 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: not relevant  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 2..21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 27..46

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 27-46 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 47

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 47 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1            5            10            15

Xaa Xaa Xaa Xaa Xaa Arg Gly Asp Met Phe Xaa Xaa Xaa Xaa Xaa Xaa  
20            25            30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys  
35            40            45

(2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 69 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear



(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21..40

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 41

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 42 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 48

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 48 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 49..68

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 49-68 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 69 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Gly Arg Gly Asp Met Phe Gly  
35 40 45

~~Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa~~  
~~50 55 60~~

Xaa Xaa Xaa Xaa Cys  
65

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 69 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 22 CAN BE ABSENT"

0991569-01602

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 28

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 29

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS-AT-POSITION-29 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 30..49

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Gly Arg Gly Asp Met Phe Gly Cys Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa  
65

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 69 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

~~(ix) FEATURE:~~

- ~~(A) NAME/KEY: Modified-site~~
- ~~(B) LOCATION: 1..20~~
- ~~(D) OTHER INFORMATION: /product= "OTHER"~~

~~/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."~~

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 42
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 42 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 48
- (D) OTHER INFORMATION: /product= "OTHRE"

/note= "GLY AT POSITION 48 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 49
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 49 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Gly Arg Gly Asp Met Phe Gly  
35 40 45

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa  
65

(2) INFORMATION FOR SEQ ID NO:42:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 69 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 22 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 28

(D) OTHER INFORMATION: /product= "OTHER"

/note= "GLY AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 29

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 29 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 30..49

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Gly Arg Gly Asp Met Phe Gly Cys Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa  
65

(2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 67 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix)-FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 2..21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 47..66

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 47-66 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 67

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 67 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1            5            10            15

Xaa Xaa Xaa Xaa Xaa Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His  
          20            25            30

Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro Ser Thr Xaa Xaa  
          35            40            45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Cys  
65

(2) INFORMATION FOR SEQ ID NO:44:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 87 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not-relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 67..86
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 67-86 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 87
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 87 CAN BE ABSENT"



(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Asp Glu Leu Pro Gln Leu Val  
35 40 45

Thr Leu Pro His Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro  
50 55 60

Ser Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Cys  
85

(2) INFORMATION FOR SEQ ID NO:45:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 87 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

0911569.011602

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 41

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSTION 41 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 67

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 67 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 68..87

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 68-87 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Asp Glu Leu Pro Gln Leu Val  
35 40 45

Thr Leu Pro His Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro  
50 55 60

Ser Thr Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85

(2) INFORMATION FOR SEQ ID NO:46:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 87 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 2..21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 47

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 47 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 48..67

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 48-67 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 68..87

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 68-87 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His  
20 25 30

Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro Ser Thr Cys Xaa  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 50                      55                      60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 65                      70                      75                      80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 85

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 87 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 47
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 47 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 48..67
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 48-67 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

209T0"695T660

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 68..87

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 68-87 CAN BE ANY CATIONIC AMNIO ACIDS  
OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Asp Glu Leu Pro Gln Leu Val Thr Leu Pro His  
20 25 30

Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro Ser Thr Cys Xaa  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85

(2) INFORMATION FOR SEQ ID NO:48:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 8 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

Glu Ile Leu Asp Val Pro Ser Thr  
1 5

(2) INFORMATION FOR SEQ ID NO:49:

09011569.01600

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 30..49

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 50 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1            5            10            15

Xaa Xaa Xaa Xaa Xaa Glu Ile Leu Asp Val Pro Ser Thr Xaa Xaa Xaa  
20            25            30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35            40            45

Xaa Cys  
50

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 70 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 50
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 50 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 51..70
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 51-70 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1            5            10            15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 20 25 30  
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Glu Ile Leu Asp Val Pro Ser  
 35 40 45  
 Thr Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 50 55 60  
 Xaa Xaa Xaa Xaa Xaa Xaa  
 65 70

(2) INFORMATION FOR SEQ ID NO:51:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 70 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 50..69
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"



(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 70 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Glu Ile Leu Asp Val Pro Ser  
35 40 45

Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Cys  
65 70

(2) INFORMATION FOR SEQ ID NO:52:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 70 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 2..21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 30

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 30 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 31..50

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 31-50 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 51..70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 51-70 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Glu Ile Leu Asp Val Pro Ser Thr Cys Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa  
65 70

(2) INFORMATION FOR SEQ ID NO:53:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 70 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS-AT-POSITION 21-CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 30

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 50 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 31..50

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 31-50 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 51..70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 51-70 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Glu Ile Leu Asp Val Pro Ser Thr Cys Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa  
65                      70

(2) INFORMATION FOR SEQ ID NO:54:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

Lys Phe Thr Ile Val Phe  
1                      5

(2) INFORMATION FOR SEQ ID NO:55:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 48 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 28..47

(D) OTHER INFORMATION: /product= "OTHER"  
/note= "Xaa AT POSITIONS 28-47 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 48

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 48 CAN BE ABSENT"

~~(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:~~

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1            5            10            15

Xaa Xaa Xaa Xaa Xaa Lys Phe Thr Ile Val Phe Xaa Xaa Xaa Xaa Xaa  
          20            25            30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys  
          35            40            45

(2) INFORMATION FOR SEQ ID NO:56:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 68 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE AB..."

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21..40

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 41

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 48

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 48 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 49..68

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 49-68 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Lys Phe Thr Ile Val Phe Cys  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa  
65

(2) INFORMATION FOR SEQ ID NO:57:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 68 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY CATIONIC AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21..40

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 21-40 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 41

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 41 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 48..67

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 48-67 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 68

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 68 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Lys Phe Thr Ile Val Phe Xaa  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Cys  
65

(2) INFORMATION FOR SEQ ID NO:58:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

~~(ii) MOLECULE TYPE: peptide~~

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 1 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 2..21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 2-21 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 28
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 29..48
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 29-48 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 49..68
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 49-68 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa  
65

(2) INFORMATION FOR SEQ ID NO:59:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 28
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 29..48

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 29-48 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 49..68

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 49-68 CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa  
65

(2) INFORMATION FOR SEQ ID NO:60:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 95 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 21  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 22  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITION 22 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 23..42  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 23-42 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 50..69  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 75  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 75 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 76..95  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 76-95 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 1            5            10            15

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 20            25            30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys  
 35 40 45

Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 50 55 60

Xaa Xaa Xaa Xaa Xaa Arg Gly Asp Met Phe Cys Xaa Xaa Xaa Xaa Xaa  
 65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 85 90 95

## (2) INFORMATION FOR SEQ ID NO:61:

### (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 95 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

### (ii) MOLECULE TYPE: peptide

#### (ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

#### (ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

#### (ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22..41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 22-41 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

#### (ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 42
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 42 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 75

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 75 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 76..95

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 76-95 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys  
35 40 45

Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Arg Gly Asp Met Phe Cys Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90 95

(2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 96 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 22 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 23..42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 23-42 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OF CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 76

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 76 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 77..96

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 77-96 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1            5            10            15

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20            25            30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys  
35            40            45

Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50            55            60

Xaa Xaa Xaa Xaa Xaa Gly Arg Gly Asp Ser Pro Cys Xaa Xaa Xaa Xaa  
65            70            75            80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85            90            95

(2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 95 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO-ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 22 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 23..42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 23-42 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 75

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 75 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 76..95

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 76-95 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys  
35 40 45

Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60



Xaa Xaa Xaa Xaa Xaa Arg Gly Asp Ser Pro Cys Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90 95

(2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 117 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not-relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 28
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 29..48
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 29-48 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 49
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 49 CAN BE ABSENT"

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## (ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

## (ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 70 CAN BE TYR OR TRP OR CAN BE ABSENT"

## (ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 71..90

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 71-90 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

## (ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 98..117

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 98-117 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 1            5            10            15

Xaa Xaa Xaa Xaa Cys Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa  
           20            25            30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
           35            40            45

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
       50            55            60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 65            70            75            80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys  
           85            90            95

Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
100 105 110

Xaa Xaa Xaa Xaa Xaa  
115

(2) INFORMATION FOR SEQ ID NO:65:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 97 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not-relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 28
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 29..48
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 29-48 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 49
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 49 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 70 CAN BE TYR OR TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 78..97

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 78-97 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys Val Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90 95

Xaa

(2) INFORMATION FOR SEQ ID NO:66:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 99 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 22 CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 23..42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 23-42 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 51..70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 51-70 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 79

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 79 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 80..99

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa FROM 80-99 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Pro Lys Lys Lys Arg  
35 40 45

Lys Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Glu Ile Leu Asp Val Ser Pro Thr Cys Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90 95

Xaa Xaa Xaa

(2) INFORMATION FOR SEQ ID NO:67:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 78 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa FROM 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 21  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 22  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITION 22 CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 30..49  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 30-49 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 58  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "CYS AT POSITION 58 CAN BE ABSENT"

(ix) FEATURE:  
 (A) NAME/KEY: Modified-site  
 (B) LOCATION: 59..78  
 (D) OTHER INFORMATION: /product= "OTHER"  
 /note= "Xaa AT POSITIONS 59-78 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 1 5 10 15

Xaa Xaa Xaa Xaa Cys Xaa Pro Lys Lys Lys Arg Lys Val Xaa Xaa Xaa  
 20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 35 40 45

Xaa Glu Ile Leu Asp Val Ser Pro Thr Cys Xaa Xaa Xaa Xaa Xaa Xaa  
 50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 65 70 75

(2) INFORMATION FOR SEQ ID NO:68:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 77 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 28

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 28 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 29..48

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 29-48 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 57

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 57 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 58..77

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 58-77 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"



(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Glu Ile Leu Asp Val Pro Ser Thr Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75

(2) INFORMATION FOR SEQ ID NO:69:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 93 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 21 CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22..41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 22-41 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 49..68

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 49-68 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 74..93

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 74-93 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys Val  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Arg Gly Asp Met Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90

(2) INFORMATION FOR SEQ ID NO:70:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 94 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

091559 011602 20970 6957660

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 1-20 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS AT POSITION 21 CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22..41

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 22-41 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 42 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 50-69 CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 75..94

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITIONS 75-94 CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys  
35 40 45

Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Arg Gly Asp Met Phe Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90

---

(2) INFORMATION FOR SEQ ID NO:71:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 94 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 22..41
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 49..68
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 75..94

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys Val  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Gly Arg Gly Asp Ser Pro Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90

(2) INFORMATION FOR SEQ ID NO:72:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 94 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 23..42

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 75..94

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys  
35 40 45

Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Arg Gly Asp Ser Pro Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90

(2) INFORMATION FOR SEQ ID NO:73:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 116 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "other"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 27
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 28..47
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 48
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 49..68
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 69
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa AT POSITION 69 CAN BE TYR, TRP, OR CAN BE ABSENT"

0901569 011600

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 70..89

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 97..116

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys  
35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys Val  
85 90 95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
100 105 110

Xaa Xaa Xaa Xaa  
115

(2) INFORMATION FOR SEQ ID NO:74:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 97 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide



(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 28

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 29..48

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Active-site

(B) LOCATION: 49

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 70

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 78..97

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1            5            10            15

Xaa Xaa Xaa Xaa Cys Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa  
20            25            30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35            40            45

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50            55            60

Xaa Xaa Xaa Xaa Xaa Xaa Pro Lys Lys Lys Arg Lys Val Xaa Xaa Xaa  
65            70            75            80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85            90            95

Xaa

(2) INFORMATION FOR SEQ ID NO:75:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 97 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22..41

(D) OTHER INFORMATION: /product= "other"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 50..69

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 78..97

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Pro Lys Lys Lys Arg Lys  
35 40 45

Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Glu Ile Leu Asp Val Ser Pro Thr Xaa Xaa Xaa  
65 70 75 80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
85 90 95

Xaa

(2) INFORMATION FOR SEQ ID NO:76:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 77 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 1..20

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 21

(D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 22

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE TYR, TRP OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 30..49

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 58..77

(D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Cys Xaa Pro Lys Lys Lys Arg Lys Val Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40 45

Xaa Glu Ile Leu Asp Val Ser Pro Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70 75

(2) INFORMATION FOR SEQ ID NO:77:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 75 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 27
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "CYS CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 28..47
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID AND CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 56..75
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Lys Phe Thr Ile Val Phe Cys Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Glu  
35 40 45

Ile Leu Asp Val Pro Ser Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 65 70 75

(2) INFORMATION FOR SEQ ID NO:78:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 70 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: circular

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY CATIONIC AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 51..70
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACIDS OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

Xaa-Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Glu Ile Leu Asp Val Pro Ser  
 35 40 45

Thr Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa  
65 70

(2) INFORMATION FOR SEQ ID NO:79:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 71 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: circular

(ii) MOLECULE-TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 1..20
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY CATIONIC AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 21..40
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 52..71
- (D) OTHER INFORMATION: /product= "OTHER"

/note= "Xaa CAN BE ANY AMINO ACID OR CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys His Ala Ile Arg Gly Asp Thr  
35 40 45

Phe Ala Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
50 55 60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
65 70

(2) INFORMATION FOR SEQ ID NO:80:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

---

(iv) ANTI-SENSE: NO

(ix) FEATURE:

- (A) NAME/KEY: Modified-site
- (B) LOCATION: 14
- (D) OTHER INFORMATION: /product= "OTHER"  
/note= "G AT POSITION 14 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

Gly Lys Phe Thr Ile Val Phe Asp Asp Asp Asp Asp Asp Gly  
1            5            10

(2) INFORMATION FOR SEQ ID NO:81:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 28 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

Lys Phe Thr Ile Val Phe Gly Gly Gly Leu Phe Glu Ala Ile Ala Glu  
1            5            10            15



Phe Ile Glu Gly Gly Trp Glu Gly Leu Ile Glu Gly  
20 25

(2) INFORMATION FOR SEQ ID NO:82:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly Gly Trp Glu Gly  
1 5 10 15

Leu Ile Glu Gly Cys Lys Phe Thr Ile Val Phe  
20 25

(2) INFORMATION FOR SEQ ID NO:83:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 38 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

Cys Gly Tyr Gly Gly Gly Gly Gly Gly Pro Lys Lys Lys Arg Lys Val  
1 5 10 15

Gly Gly Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly Gly Trp  
20 25 30

Glu Gly Leu Ile Glu Gly  
35

(2) INFORMATION FOR SEQ ID NO:84:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 38 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly Gly Trp Glu Gly  
1 5 10 15

Leu Ile Glu Gly Gly Gly Tyr Gly Gly Gly Gly Gly Gly Pro Lys Lys  
20 25 30

Lys Arg Lys Val Gly Gly  
35

(2) INFORMATION FOR SEQ ID NO:85:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

Lys Phe Thr Thr Ile Val Phe Cys Gly Tyr Gly Pro Lys Lys Lys Arg  
1            5            10            15

Lys Val Gly Gly  
20

(2) INFORMATION FOR SEQ ID NO:86:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 19 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

Cys Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Lys Phe Thr  
1            5            10            15

Ile Val Phe

(2) INFORMATION FOR SEQ ID NO:87:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(ix) FEATURE:

(A) NAME/KEY: Modified-site

(B) LOCATION: 30

(D) OTHER INFORMATION: /product= "OTHER"

/note= "G AT POSITION 30 CAN BE ABSENT"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys

1 5 10 15

Gly Lys Phe Thr Ile Val Phe Asp Asp Asp Asp Asp Asp Gly

20 25 30

(2) INFORMATION FOR SEQ ID NO:88:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 44 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys

1 5 10 15

Lys Phe Thr Ile Val Phe Gly Gly Gly Leu Phe Glu Ala Ile Ala Glu

20 25 30

Phe Ile Glu Gly Gly Trp Glu Gly Leu Ile Glu Gly

35 40

(2) INFORMATION FOR SEQ ID NO:89:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 43 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly Gly Trp Glu Gly  
20 25 30

Leu Ile Glu Gly Cys Lys Phe Thr Ile Val Phe  
35 40

(2) INFORMATION FOR SEQ ID NO:90:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 54 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly Gly Trp Glu Gly  
 20 25 30

Leu Ile Glu Gly Gly Gly Tyr Gly Gly Gly Gly Gly Gly Pro Lys Lys  
 35 40 45

Lys Arg Lys Val Gly Gly  
 50

(2) INFORMATION FOR SEQ ID NO:91:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
 1 5 10 15

Lys Phe Thr Thr Ile Val Phe Cys Gly Tyr Gly Pro Lys Lys Lys Arg  
 20 25 30

Lys Val Gly Gly  
 35

(2) INFORMATION FOR SEQ ID NO:92:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 37 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Gly Gly Cys Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Lys  
20 25 30

Phe Thr Ile Val Phe  
35

(2) INFORMATION FOR SEQ ID NO:93:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 56 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Gly Gly Cys Gly Tyr Gly Gly Gly Gly Gly Gly Pro Lys Lys Lys Arg  
20 25 30

Lys Val Gly Gly Gly Leu Phe Glu Ala Ile Ala Glu Phe Ile Glu Gly  
35 40 45

Gly Trp Glu Gly Leu Ile Glu Gly  
50 55

(2) INFORMATION FOR SEQ ID NO:94:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

---

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

Ser Ser Asp Asp Glu Ala Thr Ala Asp Ser Gln His Ser Thr Pro Pro  
1            5            10            15

Lys Lys Lys Arg Lys Val Gly Gly  
20

(2) INFORMATION FOR SEQ ID NO:95:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1            5            10            15

Ser Ser Asp Asp Glu Ala Thr Ala Asp Ser Gln His Ser Thr Pro Pro  
20            25            30



Lys Lys Lys Arg Lys Val Gly Gly  
35 40

(2) INFORMATION FOR SEQ ID NO:96:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:

Met Ser Tyr Tyr His His His His His Asp Tyr Asp Ile Pro Thr  
1 5 10 15

Thr Glu Asn Leu Tyr Phe Gln Gly Ser  
20 25

(2) INFORMATION FOR SEQ ID NO:97:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 37 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:

Met Ser Tyr Tyr His His His His His Asp Tyr Asp Ile Pro Thr  
1 5 10 15

Thr Glu Asn Leu Tyr Phe Gln Gly Ser Gly Tyr Gly Pro Lys Lys Lys  
 20 25 30

Arg Lys Val Gly Gly  
 35

(2) INFORMATION FOR SEQ ID NO:98:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

Met Ser Tyr Tyr His His His His His Asp Tyr Asp Ile Pro Thr  
 1 5 10 15

Thr Glu Asn Leu Tyr Phe Gln Ser Lys Phe Thr Ile Val Phe  
 20 25 30

(2) INFORMATION FOR SEQ ID NO:99:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 44 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

Met Ser Tyr Tyr His His His His His His Asp Tyr Asp Ile Pro Thr  
1            5            10            15

Thr Glu Asn Leu Tyr Phe Gln Ser Gly Leu Phe Glu Ala Ile Ala Glu  
20            25            30

Phe Ile Glu Gly Gly Trp Glu Gly Leu Ile Glu Gly  
35            40

---

(2) INFORMATION FOR SEQ ID NO:100:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

Met Ser Tyr Tyr His His His His His His Asp Tyr Asp Ile Pro Thr  
1            5            10            15

Thr Glu Asn Leu Tyr Phe Gln Ser Arg Gly Asp Ser Pro Cys  
20            25            30

(2) INFORMATION FOR SEQ ID NO:101:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 10 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

Met Ser Tyr Tyr His His His His His  
1 5 10

(2) INFORMATION FOR SEQ ID NO:102:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:

Met Ser Tyr Tyr His His His His His His Gly Tyr Gly Pro Lys Lys  
1 5 10 15

Lys Arg Lys Val Gly Gly  
20

(2) INFORMATION FOR SEQ ID NO:103:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 16 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:

Met Ser Tyr Tyr His His His His His His Lys Phe Thr Ile Val Phe  
1 5 10 15

(2) INFORMATION FOR SEQ ID NO:104:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:

Met Ser Tyr Tyr His His His His His His Gly Leu Phe Glu Ala Ile  
1 5 10 15

Ala Glu Phe Ile Glu Gly Gly Trp Glu Gly Leu Ile Glu Gly  
20 25 30

(2) INFORMATION FOR SEQ ID NO:105:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:

Met Ser Tyr Tyr His His His His His Arg Gly Asp Ser Pro Cys  
1            5            10            15

(2) INFORMATION FOR SEQ ID NO:106:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:

His His His His His His  
1            5

(2) INFORMATION FOR SEQ ID NO:107:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 16 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:

Gly Gly Gly Gly Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly  
1 5 10 15

(2) INFORMATION FOR SEQ ID NO:108:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 12 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:108:

Gly Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly  
1 5 10

(2) INFORMATION FOR SEQ ID NO:109:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 14 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: not relevant  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:

Gly Cys Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly  
1 5 10

(2) INFORMATION FOR SEQ ID NO:110:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 9 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:110:

Gly Gly Arg Gly Asp Met Phe Gly Gly  
1 5

(2) INFORMATION FOR SEQ ID NO:111:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 22 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:111:

Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Gly Gly Arg  
1 5 10 15

Gly Asp Met Phe Gly Gly  
20

(2) INFORMATION FOR SEQ ID NO:112:



(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:112:

Gly Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Asn Gly Trp Glu Gly  
1            5            10            15  
Met Ile Asp Gly  
              20

(2) INFORMATION FOR SEQ ID NO:113:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:113:

Gly Leu Phe Gly Ala Ile Ala Gly Phe Ile Glu Asn Gly Trp Glu Gly  
1            5            10            15  
Leu Ile Glu Gly  
              20

(2) INFORMATION FOR SEQ ID NO:114:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:114:

Gly Leu Phe Lys Ala Ile Ala Lys Phe Ile Lys Gly Gly Trp Lys Gly  
1            5            10            15  
  
Leu Ile Lys Gly  
          20

(2) INFORMATION FOR SEQ ID NO:115:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS:
- (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:115:

Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly  
1            5            10

(2) INFORMATION FOR SEQ ID NO:116:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:116:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1            5            10            15

Gly Gly Cys Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly  
          20            25            30

(2) INFORMATION FOR SEQ ID NO:117:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:117:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1            5            10            15

Cys Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Gly Gly Arg  
          20            25            30

Gly Asp Ser Pro  
35

(2) INFORMATION FOR SEQ ID NO:118:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:118:

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Gly Gly Arg Gly Asp Ser Pro Cys Gly  
20 25

(2) INFORMATION FOR SEQ ID NO:119:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:119:

Gly Arg Gly Asp Ser Pro Cys Gly Gly Lys Lys Lys Lys Lys Lys Lys  
1 5 10 15

Lys Lys Lys Lys Lys Lys Lys Lys  
20 25

(2) INFORMATION FOR SEQ ID NO:120:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 22 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: not relevant
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:120:

Cys Gly Tyr Gly Pro Lys Lys Lys Arg Lys Val Gly Gly Gly Gly Arg  
1 5 10 15

Gly Asp Ser Pro Cys Gly  
20

091555 011602

**BEST AVAILABLE COPY**

(i) SEQUENCE CHARACTERISTICS:

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(iii) HYPOTHETICAL: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:120:

Gly Asp Ser Pro Cys Gly  
20